Distance Learning Operations Course - DLOC FY05

Course Description

What's New?

For those of you who are familiar with the DLOC, we have made some significant changes since our last offering.

1. Updated all course materials for AWIPS OB4 and RPG Build 6.
2. IC5.1 *"Radar Applications Using AWIPS"* - Added a printed document containing all the job sheets.
3. IC5.3 *"Principles of Meteorological Doppler Radar"* - Added web-based modules on precipitation estimation and signal processing. The teletraining session which has previously been 9 hours is now two three-hour sessions on consecutive days (6 hours).
4. IC5.4 *"Velocity Interpretation"* - Now a web module (previously taught via teletraining).
5. IC5.5 *"Base and Derived Products"* - Still three three-hour teletraining sessions taught on consecutive days, but we added base products to this section.
6. IC5.8 "*DLOC Workshop"* - The DLOC Workshops are moving to Norman, OK. Our new lab facilities will offer each student an individual triple-headed workstation for more hands-on training.

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WSR-88D Distance Learning Operations Course (DLOC) Instructional Components

IC 5.1 "Radar Applications Using AWIPS"
Delivery Method: The Web and Onsite Training Officer
Prerequisite: Orientation Teletraining
Expected Completion Time: 22 hours
This set of "job sheets" describes the basic functionality and characteristics of using radar products on the AWIPS workstation.

AWIPS Radar Proficiency Exam
The AWIPS Radar Proficiency Exam covers the objectives from IC 5.1. It will be administered by your Training Officer. You will complete a series of tasks at the AWIPS workstation to demonstrate proficiency at displaying and manipulating radar data. You are strongly encouraged to complete the AWIPS Radar Proficiency Exam as early in the course as possible! You must complete this exam before IC5.8, the DLOC Workshop! Achieving AWIPS Radar Proficiency is an essential element to being "warning ready" when you arrive at the DLOC workshop. Performing one or more WES simulations prior to the workshop would be especially beneficial.

IC 5.2 "Introduction to the WSR-88D"

Delivery Method: The Web
Prerequisite: None
Expected Completion Time: 2 hours
An overall system description is provided, covering the equipment groups (RDA, Wideband Communications, RPG, and Users) and their primary subcomponents.
Note! There are IC 5.2 objectives and they are tested on Exam 1!

Precursor: IC 5.3 "Principles of Meteorological Doppler Radar"
Delivery Method: The Web
Prerequisite: IC 5.1 and 5.2
Expected Completion Time: 2 hours
This precursor module will prepare you for IC 5.3, which is the first instructor led portion of the course.

IC 5.3 "Principles of Meteorological Doppler Radar"
Delivery Method: The Web and Teletraining
Prerequisite: IC 5.3 Precursor
Expected Completion Time: 9 hours
This IC is delivered by two web modules and two teletraining sessions. The content is as follows:

- Precipitation Estimation: 1 hour web module
- Signal Processing: 2 hour web module
- Base Data Generation and Mitigation of Data Ambiguities: Two 3-hour teletraining sessions taught on two consecutive days.

A single comprehensive student guide is provide for the entire IC.

Exam 1
This is a multiple choice exam covering the objectives from IC 5.2, the IC 5.3 Precursor, and IC 5.3. It is administered on-line, thus you can complete it anytime, once you are ready. Your Training Officer will have the necessary information to access the exam. You are strongly encouraged to complete this exam before moving on to IC 5.4! You must complete this exam before IC 5.8, the DLOC Workshop!

IC 5.4 "Velocity Interpretation"
Delivery Method: The Web
Prerequisite: IC 5.3
Expected Completion Time: 2 hours
This IC is taught as a 2-hour web module. It will describe the methods of interpreting large and small scale velocity patterns, and
horizontal discontinuities (e.g.fronts).

Exam 2
This is a multiple choice exam covering the objectives from IC 5.4. It is administered on-line, thus you can complete it anytime, once you are ready. Your Training Officer will have the necessary information to access the exam. You are strongly encouraged to

complete this exam before moving on to IC 5.5! You must complete this exam before IC 5.8, the DLOC Workshop!

IC 5.5 "Base and Derived Products"
Delivery Method: Teletraining
Prerequisite: IC 5.4
Expected Completion Time: 9 hours
This module will present the suite of Base and Derived Products and their applications. Also presented will be relevant information on the algorithms that generate the various products and displays. This IC is taught in three 3-hour teletraining sessions on three consecutive days.

Exam 3
This is a multiple choice exam covering the objectives from IC 5.5. It is administered on-line, thus you can complete it anytime, once you are ready. Your Training Officer will have the necessary information to access the exam. You are strongly encouraged to complete this exam before moving on to IC 5.6! You must complete this exam before IC 5.8, the DLOC Workshop!

IC 5.6 "System Operations and Control"
Delivery Method: The Web
Prerequisite: IC 5.2 (however, completion of ICs 5.3, 5.4 and 5.5 is encouraged)
Expected Completion Time: 10 hours
This module provides an understanding of overall WSR-88D operations and basic familiarization with the Master System Control Function (MSCF) and the Radar Product Generator (RPG) Human Computer Interface (HCI).

Exam 4
This is a multiple choice exam covering the objectives from IC 5.6. It is administered on-line, thus you can complete it anytime, once you are ready. Your Training Officer will have the necessary information to access the exam. You are strongly encouraged to complete this exam before moving on to IC 5.7! You must complete this exam before IC 5.8, the DLOC Workshop!

IC 5.7 "Convective Storm Structure and Evolution"
Delivery Method: The Web and Teletraining
Prerequisites: Students must know how to determine thermodynamic and kinematic quantities derived from Skew-T log P soundings according to pure parcel theory. The following document is available from NWSTC: RTM-230 (NWSTC Remote Training Module – Skew T Log P Diagram and Sounding Analysis).
Also, students must be able to identify the capabilities of sounding parameters described in "Capabilities of thermodynamic and kinematic severe weather parameters", a web page at www.wdtb.noaa.gov/resources/ic/svrparams/intro/index.htm.
Expected Completion Time: 15 hours

This IC is developed as a treatment of convective storm structure and evolution fundamentals. The student guide will complement the teletraining which is delivered in three 3-hour sessions on three consecutive days. The teletraining will provide a summary and review of the objectives in preparation for the Instructional Component examination.

Exam 5
This is a multiple choice exam covering the objectives from IC 5.7. It is administered on-line, thus you can complete it anytime, once you are ready. Your Training Officer will have the necessary information to access the exam. You must complete this exam before IC 5.8, the DLOC Workshop!

IC 5.8 "DLOC Workshop"
Delivery Method: Residence
Prerequisites: Completion of all Course exams. This is very important. You will not receive your course certificate at the workshop if you have not completed all of the exams. In addition to successful completion of the AWIPS Proficiency Exam, performing one or more WES simulations prior to the workshop is recommended.
Expected Completion Time: 28 hours
This workshop is designed to culminate all the materials from the DLOC. Topics include:

- Identification of severe thunderstorm features using radar and integrated sensor techniques.
- Mesocyclone and TVS recognition, radar detection of large hail, sampling considerations, and winter weather applications.
- Discussion of Warning Decision Making issues, along with student participation in simulated real-time scenarios of severe weather cases.
- WSR-88D optimization and future evolution.